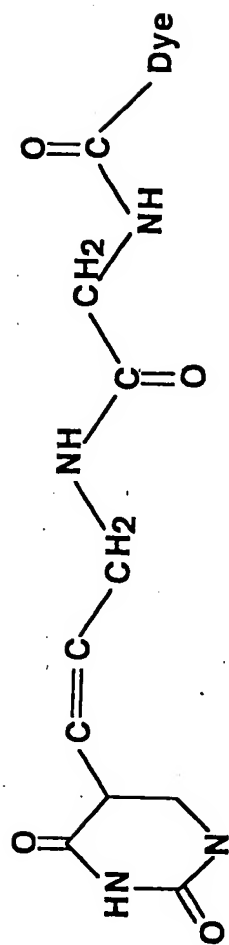


Diglycinylnyl linker



Tetraglycinylnyl linker

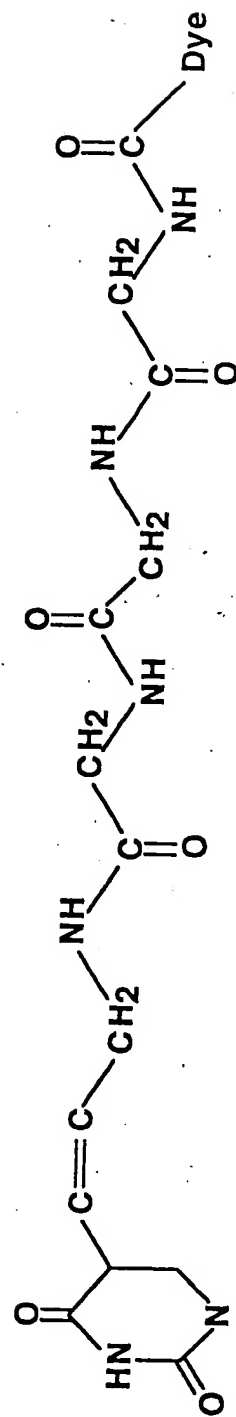
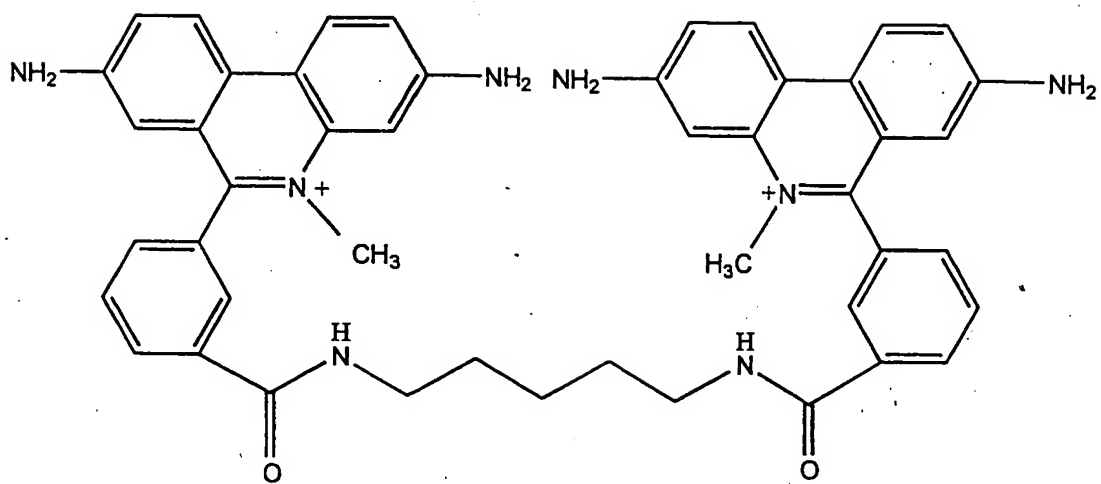
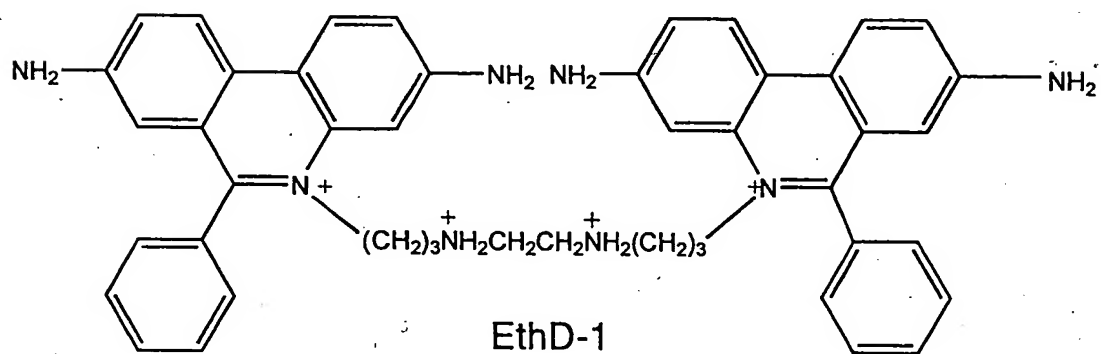


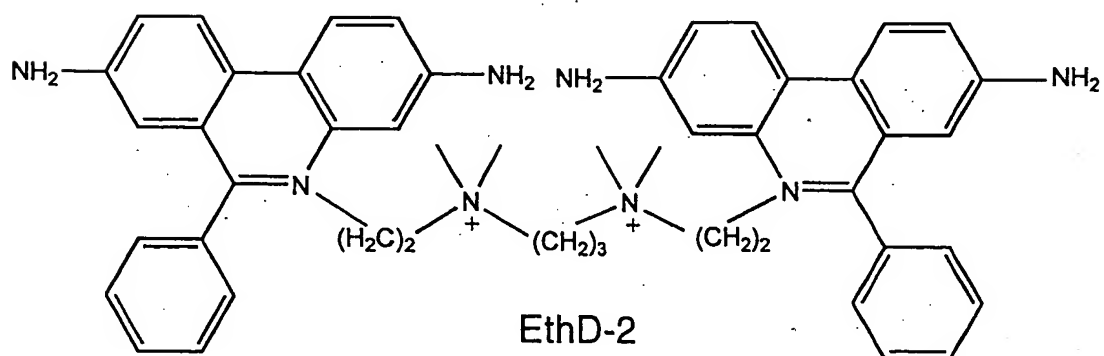
Figure 1



meta-EthD



EthD-1



EthD-2

Figure 2

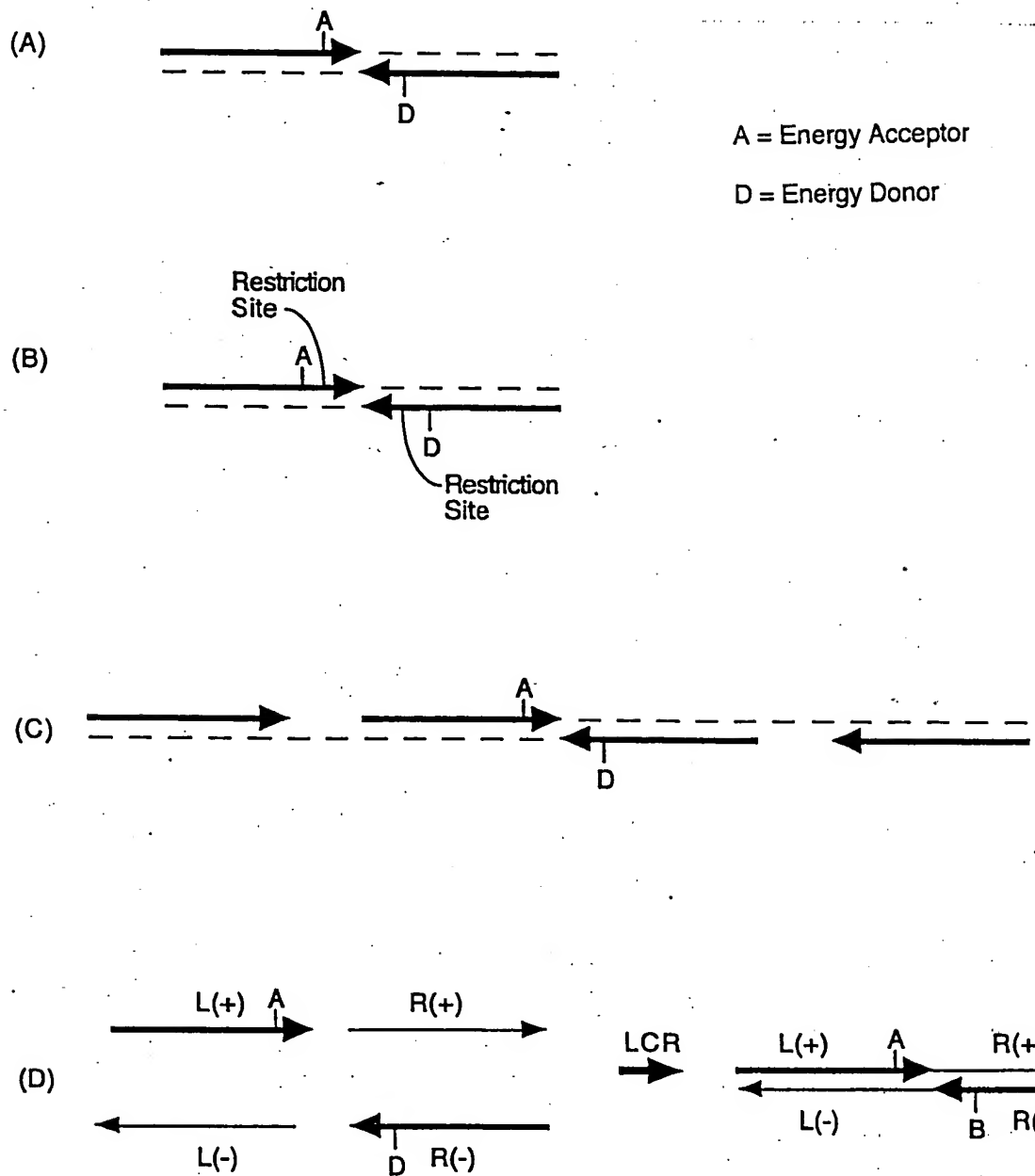


Figure 3

Target Sequence

——GCGACCTGCGAATGCTATGGATCAGGCTAGCCA——
——CGCTGGACGCTTACGATACCTAGTCCGATCGGT——

(A)

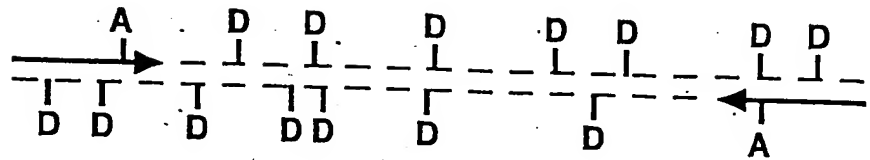
Donor
↓
GCGACCTGCGAATGCTATggatcaggctagcca
cgctggacgcttacgataCCTAGTCCGATCGGT
←
↓
Acceptor

(B)

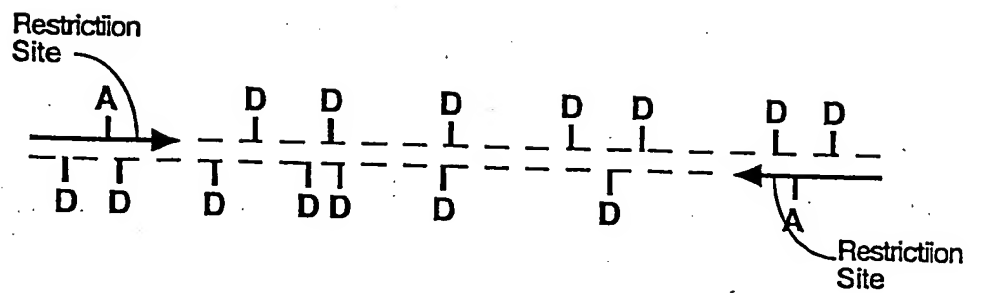
Donor
↓
GCGACCTGCGAATGCTATggatcaggctagcca
cgctggacgcttacgatacctAGTCCGATCGGT
←
↓
Acceptor

Figure 4

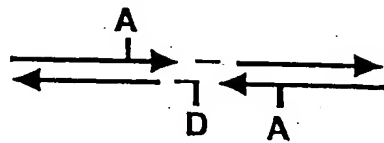
(A) PCR



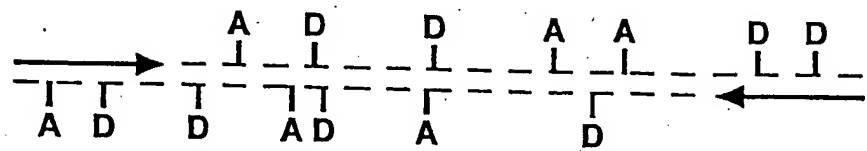
(B) SDA



(C) GAP-LCR



(D) PCR

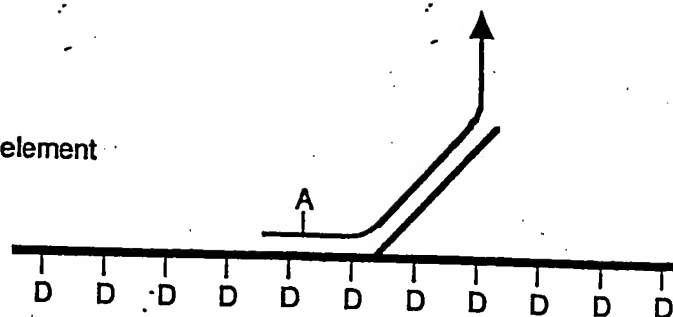


A = Energy Acceptor

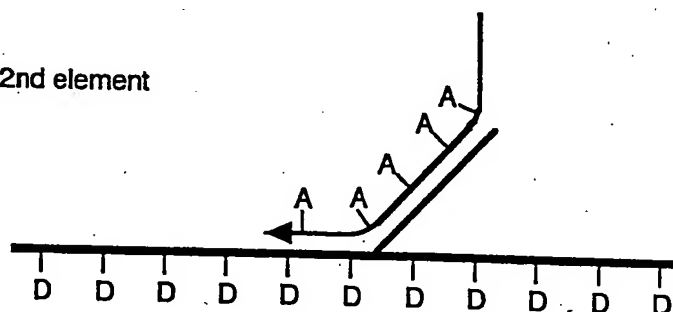
D = Energy Donor

Figure 5

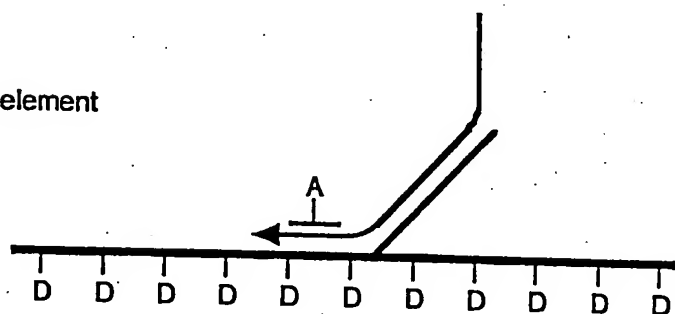
(A) Primer with 2nd element



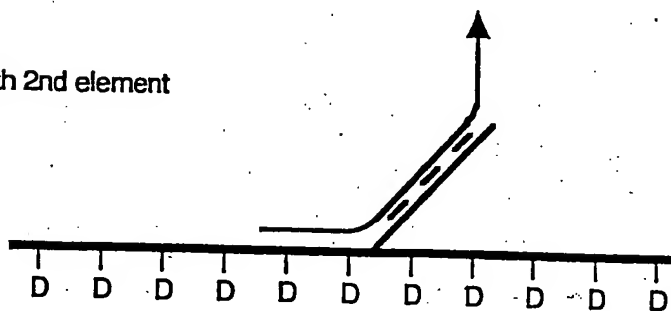
(B) Nucleotide with 2nd element



(B) Probe with 2nd element



(B) Intercalators with 2nd element



D = Energy Donor
A = Energy Acceptor

Figure 6

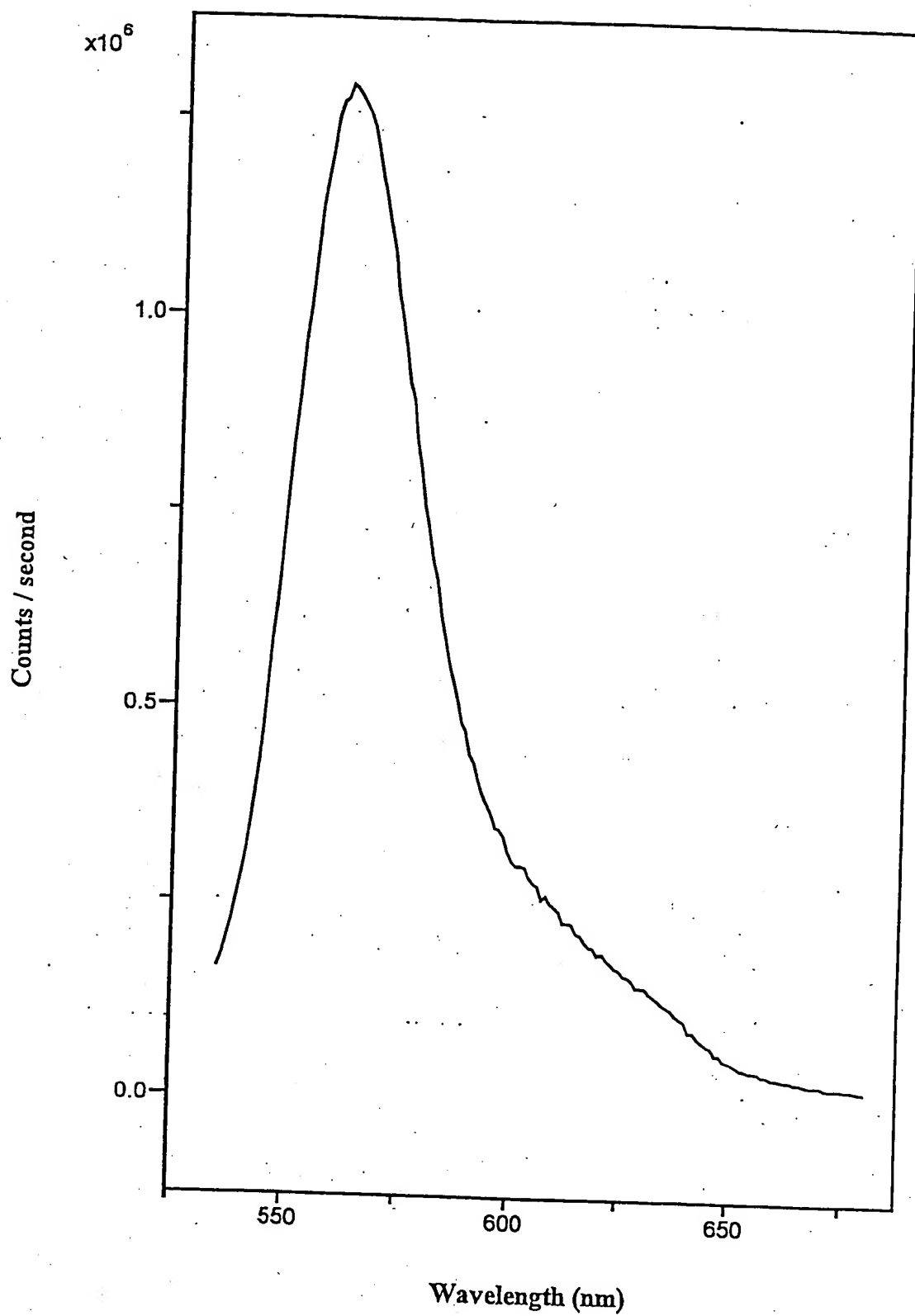


Figure 7

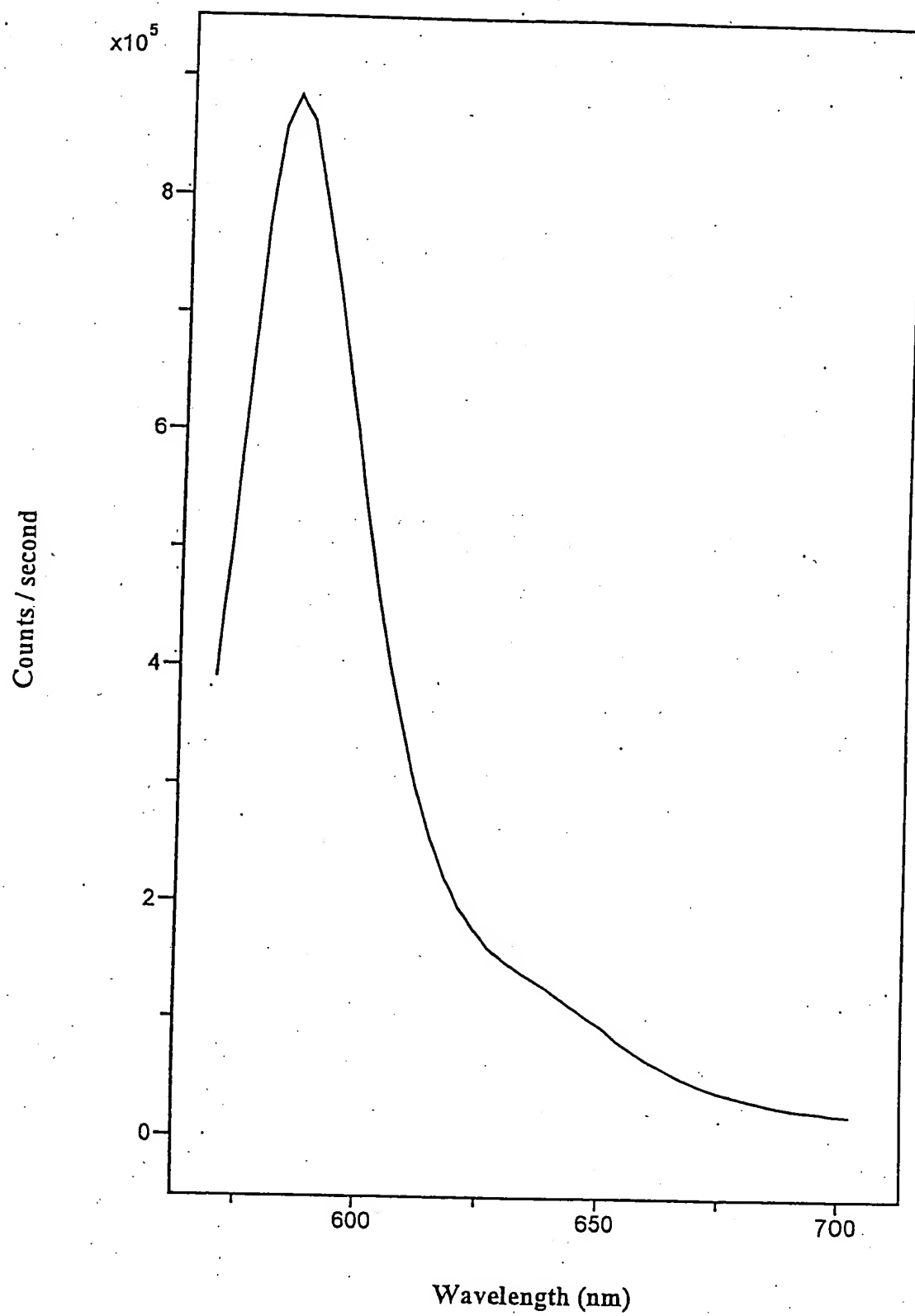


Figure 8

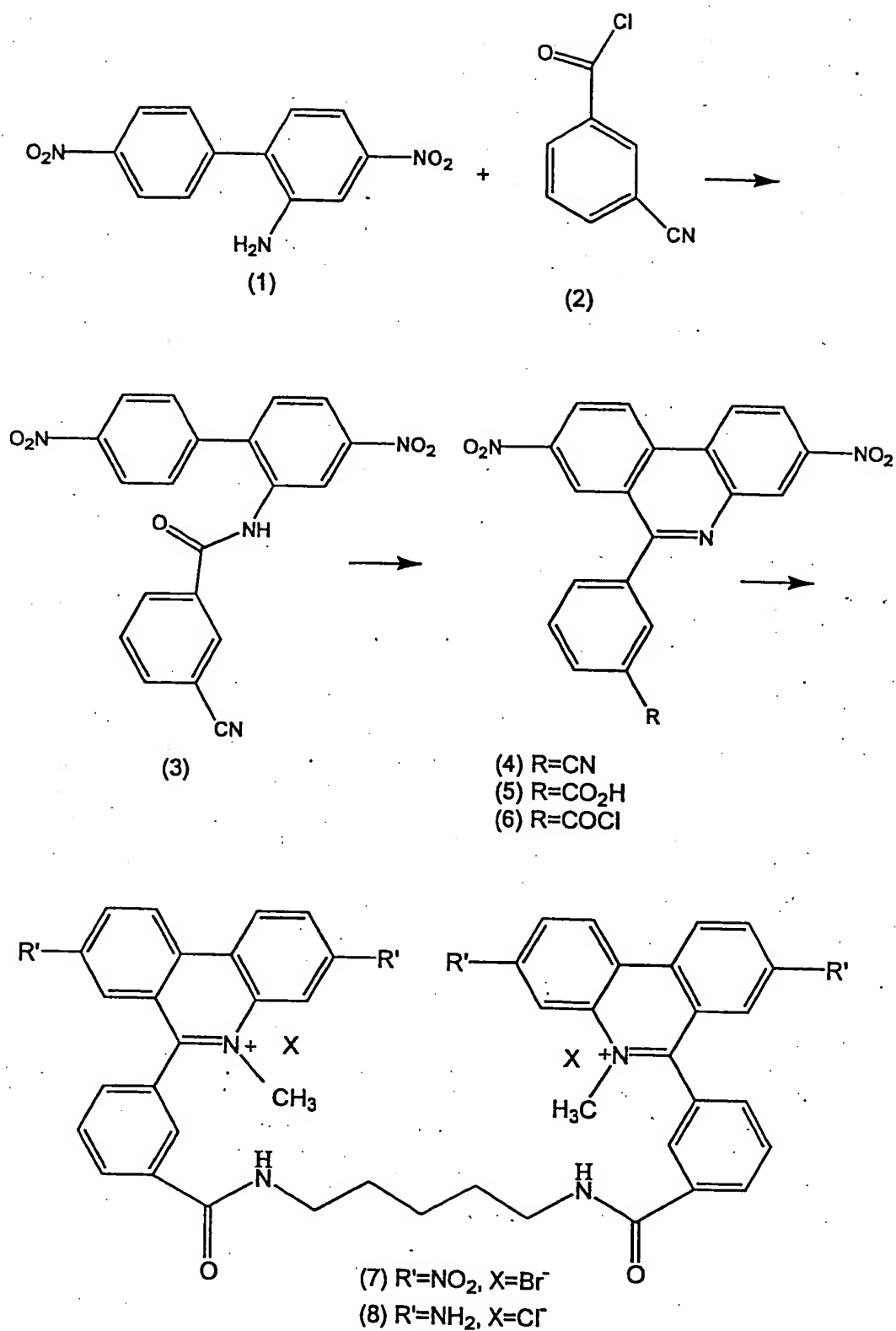
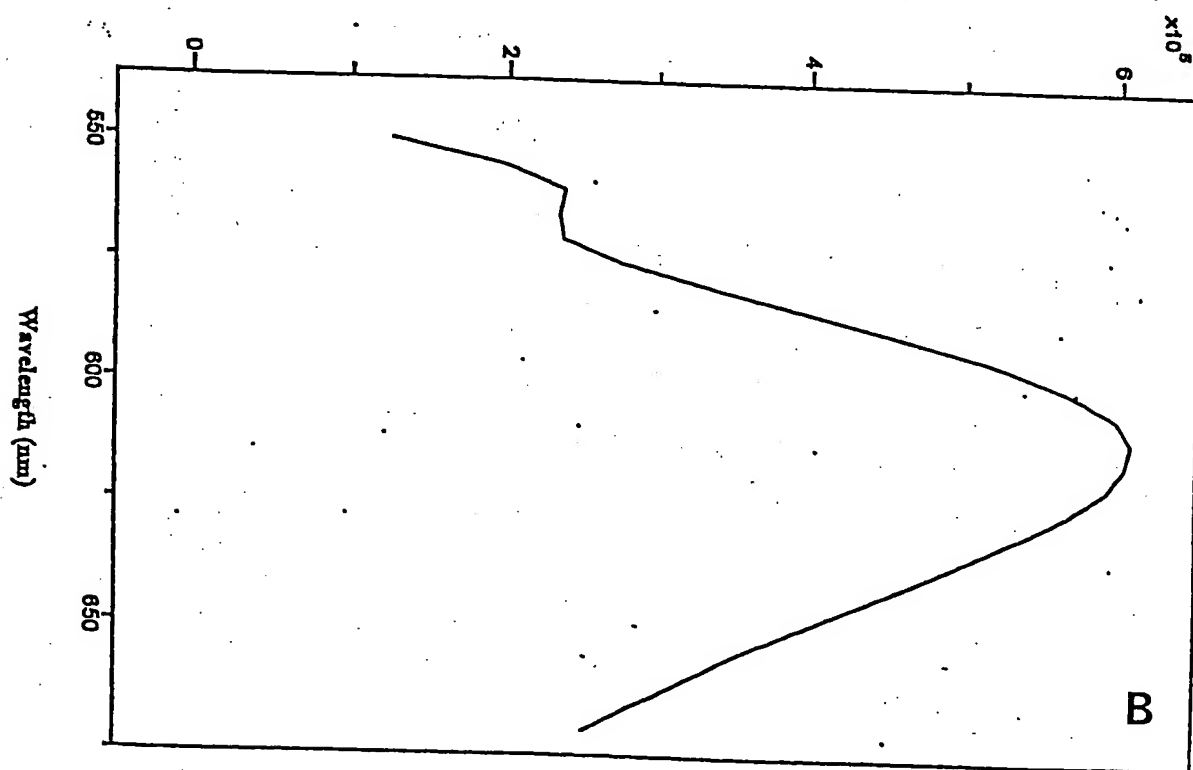
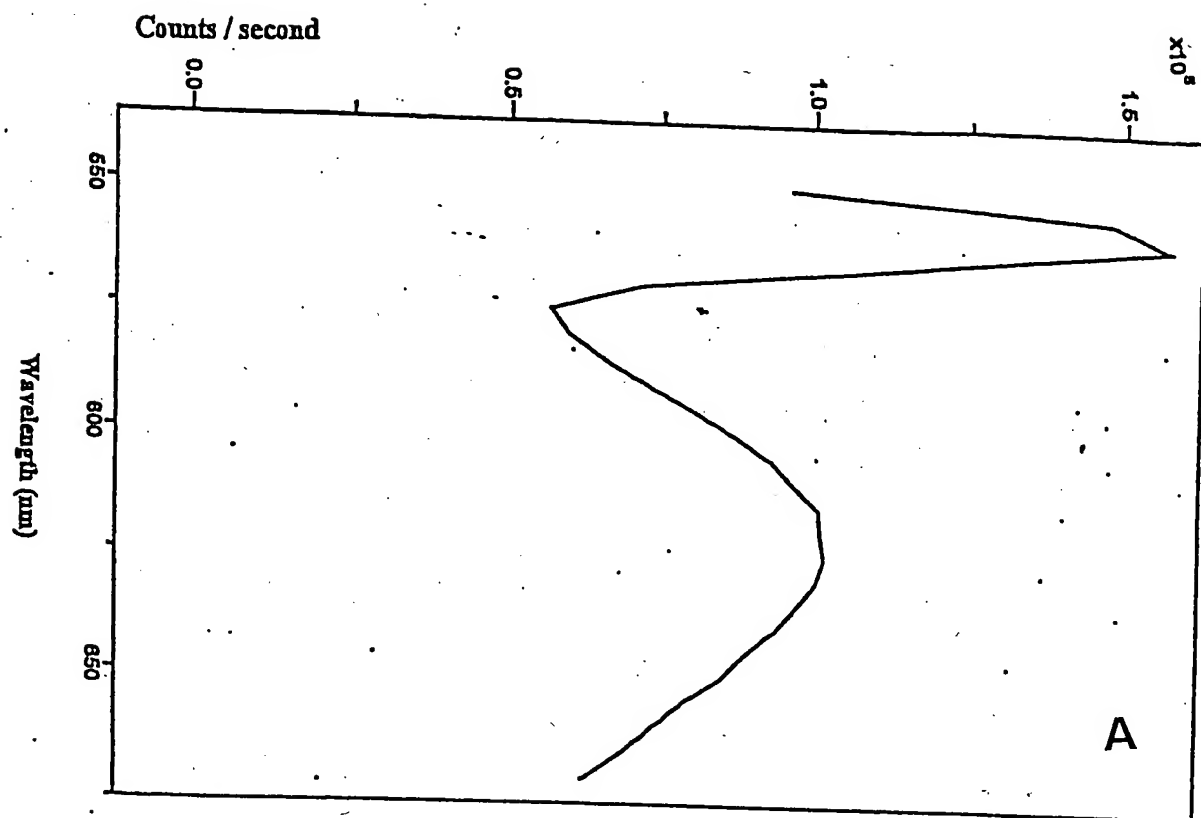
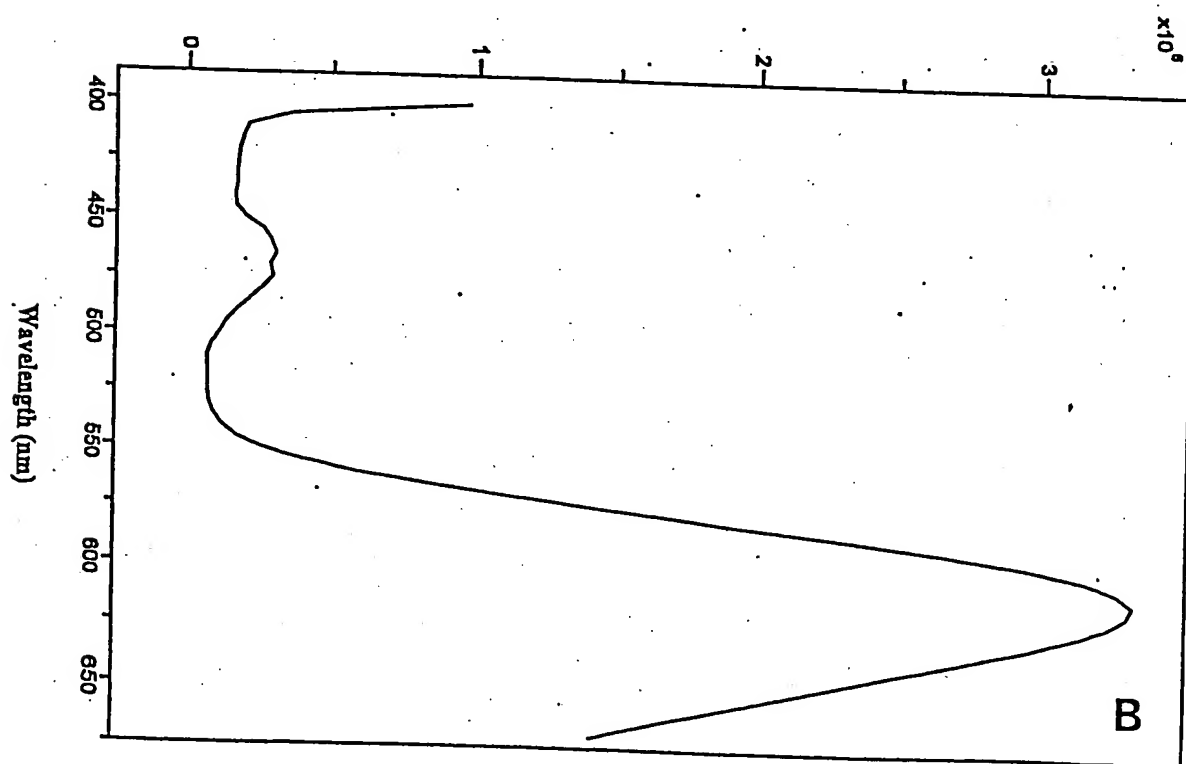
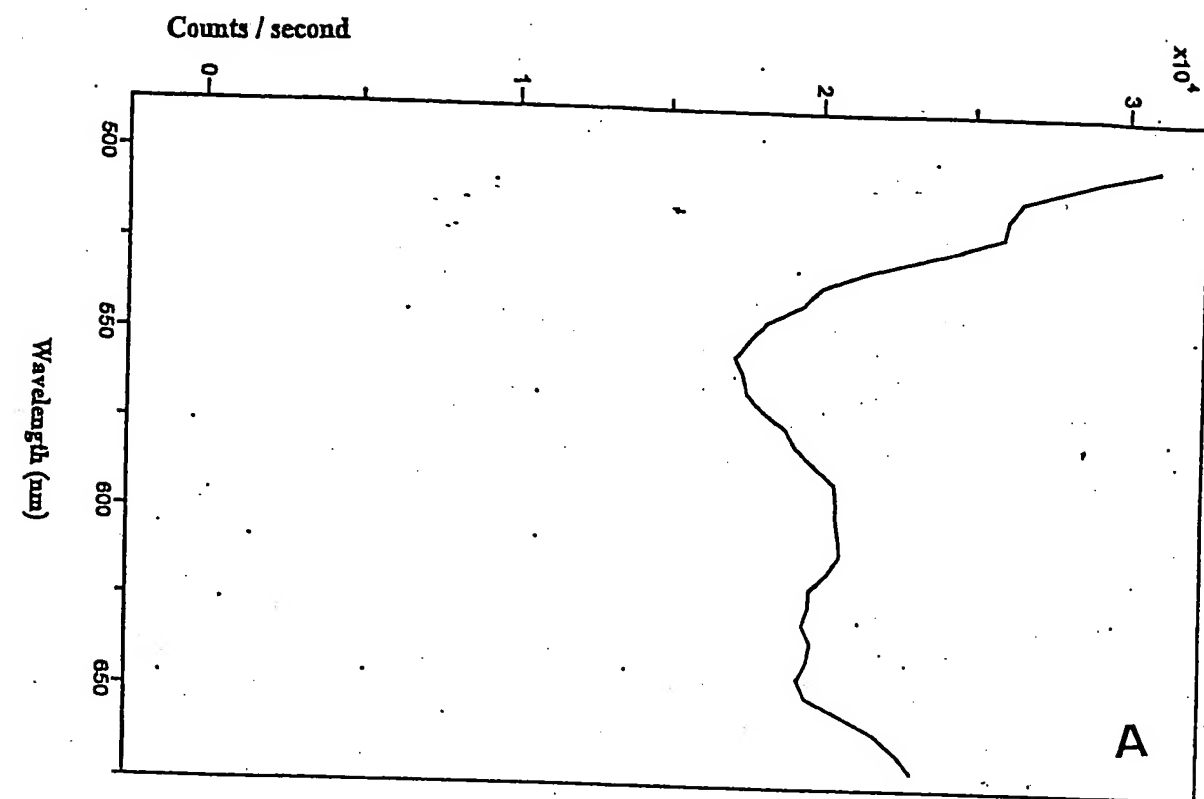


Figure 9



Illumination at 472 nM
Figure 10



Illumination at 350 nM

Figure 11

HIV Anti-sense Amplicon

Forward Primer

catgatccgg atgggagggtg →

Hybridization Probe

taatggtg agtatcccctg cctaactct →*

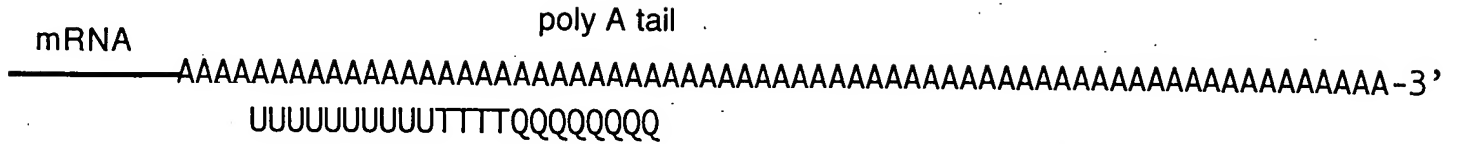
catgatccgg atgggagggtg ggtctgaaac gataatgggtg agtatcccctg cctaactcta ttactatcc ggatgtgc
gtactaggcc taccctccac ccagactttg ctattaccac tcataggac ggattgagat aagtgatagg cctacacg

← agat aagtgatagg cctacacg

Reverse Primer

Figure 12

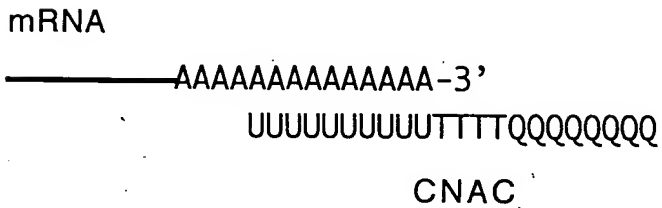
A) Binding of CNAC to poly A tail



U = Uridine (ribonucleotide)
 T = Thymidine (deoxyribonucleotide)
 Q = Inosine (ribonucleotide)

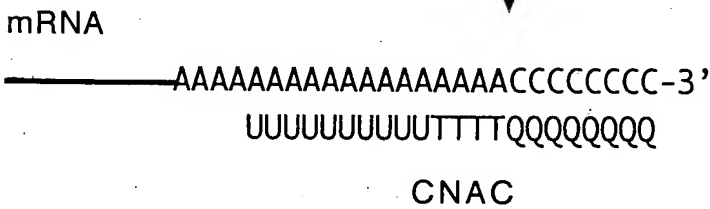
B) elimination of poly A segment by RNase H

RNase H



C) Incorporation of primer binding site by template dependent extension of analyte

Reverse Transcriptase



D) Removal of CNAC and binding of primer with promoter sequence



Figure 13

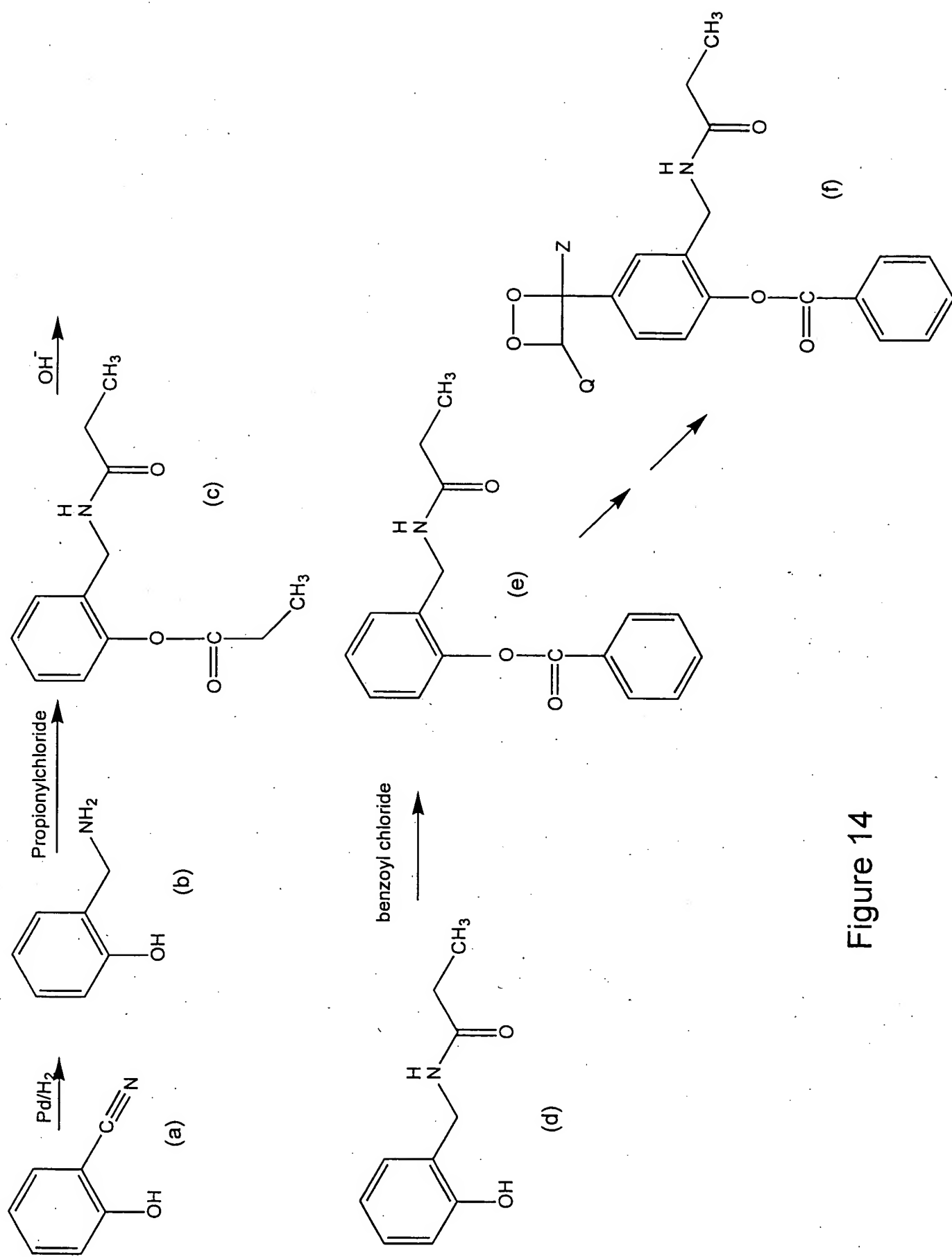


Figure 14

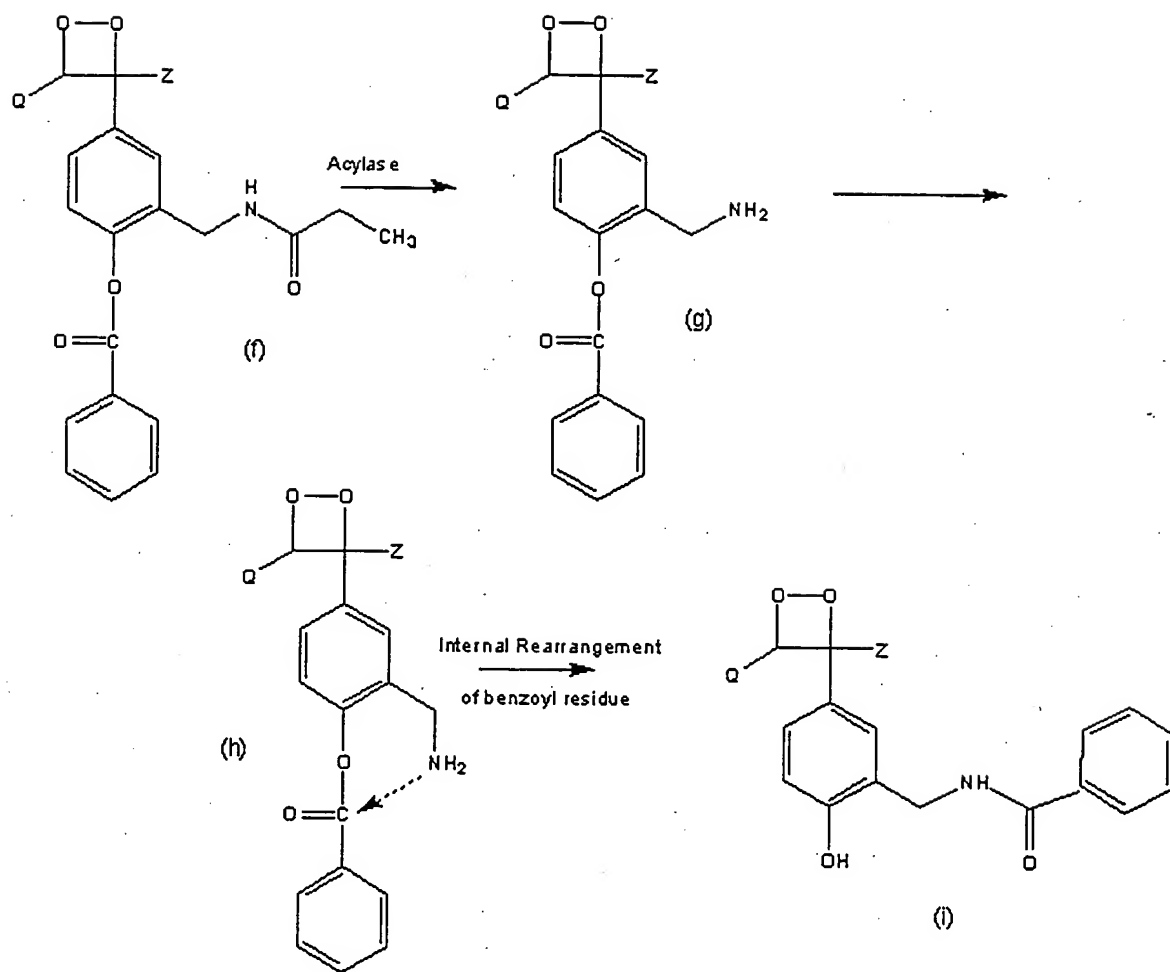


Figure 15